

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

## PCT

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT:GB2004/004503

International filing date (day/month/year)  
25.10.2004

Priority date (day/month/year)  
23.10.2003

International Patent Classification (IPC) or both national classification and IPC  
E21B31/00, E21B28/00

Applicant  
ANDERGAUGE LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Morrish, S

Telephone No. +49 89 2399-7220



10/576884

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2004/004503

**APPROPRIATE 24 APR 2006**

**Box No. I Basis of the opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	4,5,9-47,50-79
	No: Claims	1-3,6-8,48,49
Inventive step (IS)	Yes: Claims	9-47
	No: Claims	1-8,48-79
Industrial applicability (IA)	Yes: Claims	1-79
	No: Claims	

2. Citations and explanations

**see separate sheet**

**WRITTEN OPINION OF THE  
 INTERNATIONAL SEARCHING  
 AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/GB2004/004503

**V - Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Although **claims 48 and 49** have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

The document **D1: US-A-4 890 682** is regarded as being the closest prior art to the subject-matter of **claim 1**, this document discloses a method of running a bore-lining tubing string into a bore, the method comprising running a tubing string into a bore while agitating the string to reduce the friction between the string and the bore wall and facilitate the translation of the string into the bore.

Although the disclosure of **D1** is directed towards a drill string that is to be moved through the wellbore in case friction between the borehole wall and the drill string is high, there is no reason why the term "drill string" should not be limited to include casing. Therefore the subject-matter of claim 1 is not new and said claim does not meet the requirements of the PCT with respect to novelty.

**D1** also discloses the subject-matter of **claims 2, 3, 6 to 8** (see columns 1 and 2) and therefore the subject-matter of said claims is not new.

In addition, **D2: EP-A-0 461 321** discloses a method whereby the vibrational energy is translated into the annulus surrounding the casing which acts to loosen the cement. As **D1** in combination with **D2** also discloses the subject-matter of **claims 4 and 5**, said claims do not meet the requirements of the PCT with respect to inventive step.

A second method of drilling using a agitator is disclosed by a second embodiment in **D1**. However, the skilled man would not be able to combine these two embodiments with the disclosure of **D2** in order to solve the problem of providing a method that uses vibrational or agitational energy in order to advance the wellbore as well as introduce cement into the annulus of the well bore. The subject-matter of **claims 9 onward** appears to relate to a method of operating an agitator in conjunction with a rotary drilling system to allow the casing to be simultaneously advanced as well as agitated. Therefore, the subject-matter of **claims 9 to 47** appears to show the inventive step as

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required by Article 33(3) PCT.

The subject-matter of **claims 48 and 49** relates to methods of cementing a bore-lining tubing string in a well bore whereby the tubing string is agitated or having pressure pulses applied to it while the cement is being pumped. This method is entirely disclosed by **D2** and therefore the subject-matter of said claims is not new.

In addition, the subject-matter of **claims 50 to 79** is disclosed in the second embodiment of **D1** (see columns 2 to 4) and therefore, although said claims are new, they do not meet the requirements of the PCT with respect to inventive step.